

CONVENTIONAL MOSFET

**FIG. 1**

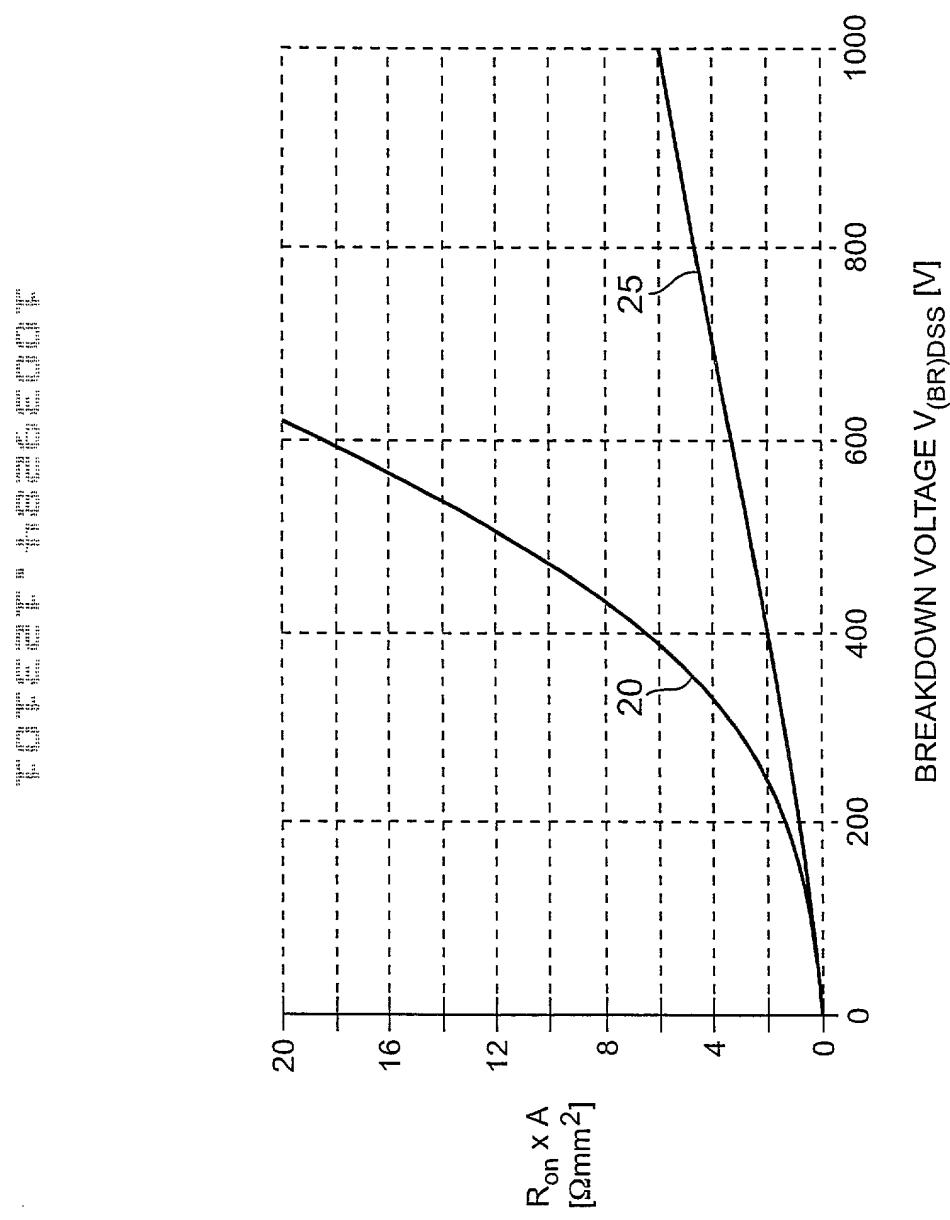
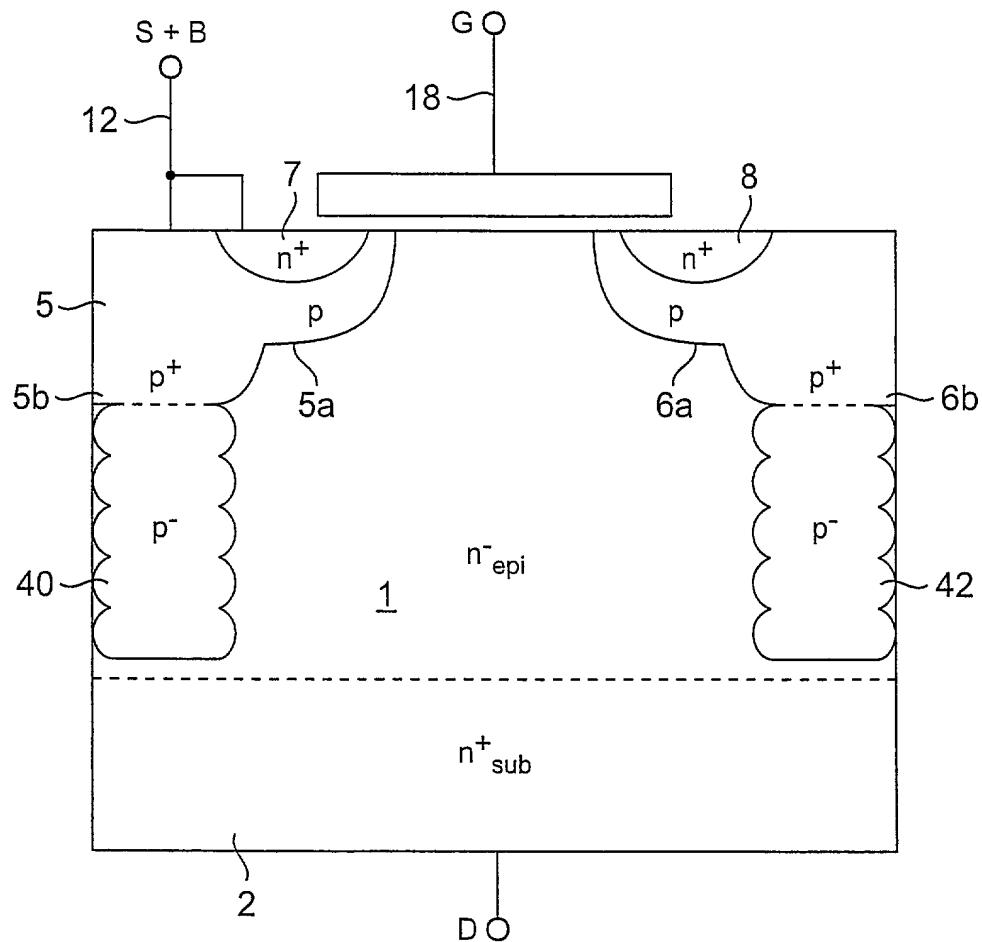


FIG. 2



THE DOPANT DISTRIBUTION OF A HIGH VOLTAGE VERTICAL  
DMOS TRANSISTOR WITH A RELATIVELY LOW ON-RESISTANCE

**FIG. 3**

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Step

Figure

1. Grow / deposit a trench etch-stop layers

p-type  
deposit

2. Mask and etch the trench etch-stop layers.

501

510

3. Etch the trench using a gas that contains the desired deposit species.

502

4. Fill the trench with a dielectric or a high resistivity layer

p-type  
region 5

512

5. Planarize

6. Diffuse the dopant to form the desired junction

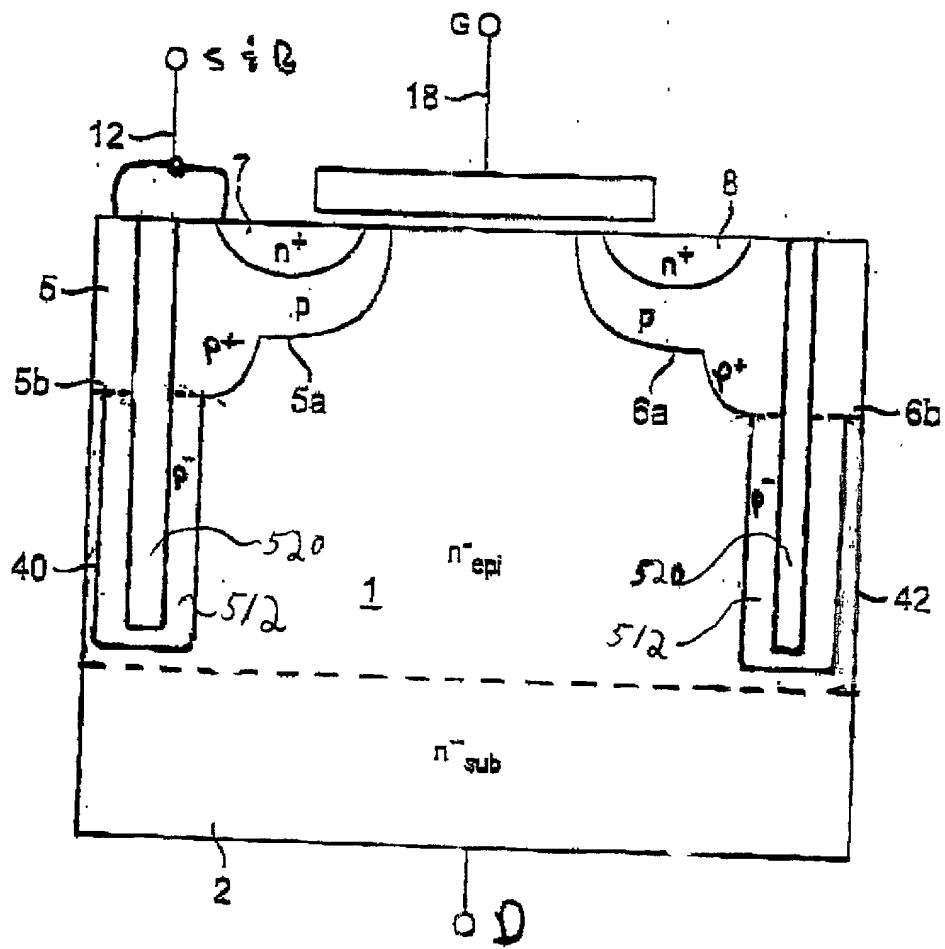
501

502

4b

Figure 4. The steps in the fabrication of the voltage sustaining junction.

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FIG. 5